Solving Complex Problems: Applying a Problem-Oriented Approach to the Case of the Orient/East-Med Corridor

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3 SOLVING COMPLEX PROBLEMS: APPLYING A PROBLEM-ORIENTED APPROACH TO THE CASE OF THE ORIENT/EAST-MED CORRIDOR

Resume

Abstract
The paper initially elucidates the so-called 'problems-first' planning approach, whereby planners are supposed to start any activity based on a precise definition of the problems that need to be solved. As a result, they become more relevant actors to both citizens and politicians, all of whom are considered important parties in solving complex problems. Following a brief introduction, the 'key seven', i.e. the seven key aspects of problem-oriented planning, are described. Briefly, these are the various elements of a planning task that, when altered, have a disproportionate effect on the range of possible solutions and thus thoroughly affect the outcome of a planning situation. These include: (1) defining the 'socially constructed' problems to be worked on, (2) modifying the (usually provisional) definition of the problem by shifting it back and forth, (3) testing the empirical adequacy of the assumed relationship at the base of how a problem is defined, (4) elucidating the causes of a problem, (5) generating measures designed to solve the problem from these causes, (6) defining key concepts (terms), as well as (7) incorporating various basic approaches to planning. The second part of the paper illustrates the main problems observed along the Orient/East-Med Corridor, including not only infrastructural bottlenecks, but also complex geo-political challenges. Accordingly, the conclusion summarizes the main recommendations for the development of a strategy for the Orient/East-Med Corridor including both the 'planning world' and 'life world' realms.

Keywords
Problem-oriented planning – railway infrastructure – territorial cohesion – geopolitics – Orient/East-Med Corridor

Umgang mit komplexen Herausforderungen: Problemlösungsorientierter Ansatz am Beispiel des Orient/East-Med Corridors

Kurzfassung
Der Beitrag befasst sich mit dem sog. „problems-first"-Planungsansatz, bei dem jeder Planungsschritt auf Grundlage detaillierter Definition und Kenntnis der zu lösenden Herausforderungen bzw. Probleme erfolgen soll. So werden auch Planungsakteure für Bürger bzw. Politiker sichtbarer und werden als wichtige Parteien bei der Lösung komplexer Probleme gesehen. Der Beitrag nennt nach einer kurzen Einführung die „key seven", d.h. die sieben Schwerpunkte der problemorientierten Planung. Dies sind die unterschiedlichen Planungsaspekte, die sich bei Änderungen maßgeblich auf das Spektrum an Lösungsmöglichkeiten auswirken und damit das Ergebnis von Planung nachhaltig beeinflussen. Dies umfasst: (1) die Definition der zu behandelnden „sozial konstruierten" Probleme, (2) eine der Situation eher angemessene Änderung der (in der Regel vorläufigen) Problemdefinition, (3) Prüfung der empirischen Validität der Grundlagen und Voraussetzungen des Problems, (4) Klärung der Ursachen des Problems, (5) vor diesem Hintergrund Erarbeitung von Maßnahmen zur Lösung des Problems, (6) Definition von Schlüsselstrategien (Begriffen) sowie (7) Einbeziehung verschiedener Planungsansätze. Der zweite Teil des Beitrags verdeutlicht die wichtigsten Probleme entlang des Orient/East-Med Corridors; hierzu zählen nicht nur infrastrukturelle Engpässe, sondern auch komplexe geopolitische Herausforderungen. Hierauf aufbauend fassen die Schlussfolgerungen die wichtigsten Empfehlungen für die Entwicklung einer Strategie für den Orient/East-Med Corridor zusammen, die die „Planungswelt" und die „Lebenswelt" umfassen.

Schlüsselwörter
Problemorientierte Planung – Eisenbahninfrastruktur – territorialer Zusammenhalt – Geopolitik – Orient/East-Med Corridor

1 'Problems First' planning approach

Solving complex planning problems requires analyzing an initially opaque situation. More precisely, it is only possible to solve a complex problem once it has been clearly defined. Somewhat differently put: it makes no sense to search for answers (or even to gather large amounts of data) before a question has been clearly formulated. Hence, the definition of problems should be placed at the front and center of planning. Such a procedure is designated 'problems-first' planning (Schönwandt 2006, 2008; Schönwandt/Voermanek/Utz et al. 2013).

Clearly delimiting the various steps that must be taken to solve a complex problem helps diffuse a criticism that often confronts spatial planners. Planners are frequently blamed for failing to sufficiently address all of the problems that are relevant in a given

situation. Therefore, spatial planning is only capable of solving problems to a minimal degree. All too often, planning is thus simply deemed ineffective and considered irrelevant in politics (Krautzberger 1999: 23). Although this criticism is surely overblown, it does touch a nerve in much spatial planning: instead of focusing their attention on the problems that must be solved, planners often begin elsewhere. The following four ways of proceeding are especially typical (Schönwandt 2006: 26 ff):

1 Planners often begin their work by choosing particular *methods* that are specific to their discipline or training. They often do this in advance, without checking if some other methods are better suited to the task at hand. For example, spatial planners often begin tackling a problem by taking the usual surveys of demographics, economy, traffic, etc. The problem is that in so doing they have severely restricted how the problem can be formulated.

2 At the outset of a new task, planners often orient themselves by particular *goals* or *mission statements*. No doubt, these are essential tools in planning that cannot be done away with. However, if it is not clear what problems they are supposed to solve, a planning process runs the risk of becoming inefficient. For example, some mission statements – such as 'the city of short distances' – are frequently called on without first checking if they really fit the problem at hand. Thus, planners who orient themselves by a set of predetermined goals often find themselves in a situation where only a very limited and more or less random set of problems enters their line of sight.

3 Planners often begin planning processes by immediately proposing *measures* or *solutions* common to their particular sub-discipline, without first having sufficiently probed the spectrum of potentially more well-suited alternatives. This is problematic because it automatically – often without the planner's awareness – restricts the planner's domain of action to include only those problems that can be solved with those particular measures. For instance, measures in spatial planning are often restricted to designating sites for particular uses or constructing infrastructure on those sites (such as buildings, streets, parks, etc.). What is too little appreciated by planners are measures that guide people's actions and thus steer how they utilize particular sites; that is, measures that do not seek to change the physical world but rather people's interaction with or use of a space and the infrastructure it contains (Schönwandt 2002: 51 f; Jung 2008).

4 Planners often use particular *theories* to guide them through a new planning process without first ascertaining if those theories are well suited to the problem at hand. An example is Christaller's (1933) and Lösch's (1940) Central Place Theory, which in the past was often used to guide the allocation of infrastructure facilities in the development of a region. However, the theory, at least in its initial formulation, is not well suited to planning problems that arise from the contraction rather than expansion of an area.

A fundamental feature of the 'problems-first' approach is that it has very specific, targeted scope – it is especially applicable to long-term, high-level problems, which can be solved in the run-up to formal instruments rather than by preparation and de-

velopment of formal mechanisms themselves. In addition, the 'problems-first' approach is often time-consuming for situations in which proven and well-established procedures already exist. As such, it should be understood as an extension and not a replacement of traditional planning instruments. With this in mind, the basic outline of a systematic approach can now be drawn that centers on socially constructed problems to be solved by planning measures: a transdisciplinary approach according to the principle of 'problems-first' planning (Hemberger/Schönwandt/Grunau et al. 2008a, 2008b; Grunau 2008; Saifoulline/von der Weth/Schönwandt et al. 2009).

2 'Third generation' planning model: principle components

Before elucidating the main aspects of the 'problems-first' planning approach, it is worth outlining some basic features of the planning model that informs 'problems-first' planning.[1] A planning model of the 'third generation' is foundational to 'problems-first' planning. Briefly put, this planning model distinguishes itself from predecessors of the 'first' and 'second generations' in the following ways.

Planning models of the 'first generation' subdivide the planning process into a number of distinct phases: understand the problem, gather information, analyze this information, develop solutions, evaluate those solutions, and, finally, execute them. This way of thinking assumes that: the formulation of a problem and its solution are distinct and independent; the approach is 'objective'; there are unambiguous, comparable and non-contradictory goals; and, all of the information is accessible to the planner who can process it all (Schönwandt 2002: 30 ff).

The 'second generation' planning models are characterized by the fact that neither the problem itself, nor admissible solutions, nor even the goals that are pursued can be defined unequivocally and unambiguously. A consequence of recognizing the importance of diverse cognitive viewpoints is that there is *no single* 'objective' or 'correct' way of seeing the world. Rather, there is a multiplicity of equally situated worldviews each of which represents its own form of local knowledge. Hence, it is essential to communicate and learn from one another. In so doing, we not only exchange ideas; eventually, we also develop solutions that build on and integrate the many, diverse views on any particular problem.

The 'third generation' of planning models distinguishes itself from the 'second generation' in that it seeks to resolve two shortcomings of the latter (Schönwandt 2002, 2008): 1) what is missing is an adequately nuanced, layered and multifaceted concept of planning that permits a sufficiently clear and concise description to make it readily intelligible; and, 2) the 'second generation' models emphasize the importance of com-

1 Although their importance is sometimes underestimated, planning models are indispensable. This is because they are necessary to analyze, compare, test, communicate and improve a planning procedure. Moreover, it is important to explicitly formulate our planning models. Those that are only intuitively grasped and unconsciously applied are inaccessible for analysis and cannot be further developed and improved.

munication over all other concerns. For this reason, after the 'communicative turn' of the 'second generation', 'third generation' planning calls for a 'turn to content' (Schönwandt 2008: 46ff; Schönwandt/Jung 2006: 364 ff).

The planning model of the 'third generation' consists of the following three principle components (Schönwandt 2008; Hemberger 2014):

> **Concrete steps in planning.** The model distinguishes between the following steps in developing a plan. First, a 'comprehension of the situation' must be established, then 'instructions' (e.g. plans) are elaborated, next, 'communication about behavior' takes place, and, finally, concrete 'interventions' are put into place to effect 'outcomes' in particular spatial, social, political, environmental and economic 'settings'. The exact nature of the 'outcomes' that are actually brought about may, in turn, force us to revise our 'comprehension of the situation' and reinitiate the problem-solving process anew.[2]

> **Life world.** The life world is that section of the planning model that comprises the context or surroundings in which the planning process takes place. The life world includes all of the actors who are not in the planning world but who partake in or are affected by a planning process (politicians, citizens, public authorities, firms, interest groups, etc.). The life world also includes the so-called agenda, i.e., those points of political discussion or conflict that serve as a catalyst for a planning process or decision. Finally, it comprises all of the material realities (e.g. physical space) and conceptual conditions (e.g. social, economic, ecological, as well as politico-administrative) involved in planning.

> **Planning world.** Through their worldview, planners generate a planning world within a given life world. The planning world is the professional domain in which plans are worked out (via feedback with the actors of the life world). Essential to the planning world are what might be called the 'basic approaches to planning' (Bunge 1983, 1996). These are shared thought patterns or paradigms in the Kuhnian sense (Kuhn 1962/1981) that are brought into being by particular goals, ways of viewing a problem, methods and background knowledge (Schönwandt/Voigt 2005). Every planner uses at least one approach that influences his/her communicative as well as practical actions, whether consciously or not. However, since the choice of approaches in planning is not, as is commonly believed, dictated by the 'nature of things', it is more or less open to us. In sum, approaches to planning have a decisive effect on what will be planned and what solutions come out of a planning process.

2 It should be noted that besides having the overall character of a feedback loop, each step in the planning process may contain smaller feedback loops as well. Moreover, the described sequence of steps need not necessarily correspond to the actual order in which they are executed in a real-world scenario.

3 'Key Seven': components of problem-oriented planning

Without losing sight of everything planners must keep in mind when actually working on a concrete task, it is advisable to pay special attention to seven components in particular: the 'key seven'. That is, we will primarily deal with those elements of the planning process that more than any others determine the range within which solutions can be sought. Differently put, the key seven comprise those parameters of a planning task that, when altered, effect the most profound change in the range of available solutions. Together, they exercise the most significant influence on the outcome of a planning process (Schönwandt 2008; Hemberger 2014).

3.1 Defining the problem

According to the basic principle of 'problems-first' planning, the beginning of a planning task consists of defining the problem with as much precision as possible. A problem is here defined as a state of affairs that is considered undesirable in some regard – a grievance that either already exists or that will come into being in the foreseeable future. This stands in contrast to a targeted state of affairs, or goal, into which we hope to transform the problem. Also, the term 'problem' is associated with the fact that the measures capable of transforming the undesirable state of affairs in the wished-for goal are so far unknown. If these measures are already known we are not dealing with a 'problem' *per se*, but rather with a routine task.

Defining a problem may well sound like an easy task. However, experience shows that professional planners often find it hard to abandon well-worn methods, goals, theories and standardized solutions, even though this is precisely what is required to give a precise definition of a problem. Moreover, it is essential that planners develop well-founded definitions of their problems because a failure to do so makes it impossible to formulate a rigorous chain of reasoning from the problem to its solution. If nothing else, this is true because a problem that goes unnamed cannot really be understood.

When engaged in determining what the problem at hand consists of, it is helpful to remind oneself that problems do not exist *per se*. Rather, there are certain states of affairs or occurrences we as human beings have subjectively deemed to be problematic. Problems are thus always 'socially constructed', the product of a negotiation between diverse people or groups of people (Koppenjan/Klijn 2004: 116 ff).

The challenges when defining a problem as the first step in planning are brought into especially stark relief by the following considerations (Koppenjan/Klijn 2004: 116 ff):

> Problems are neither 'self-evident' nor can they be 'objectively' identified. Rather they depend on the perception of human actors and are thus always 'socially constructed'.

> Different actors can perceive the same problem in extremely different ways. Uncertainties about the content of a problem are therefore not only caused by the factual complexity of the problem, but also the divergent perceptions and value judgments of the actors involved.

> When actors draw conclusions based on widely divergent perceptions of a problem and at the same time are unwilling or unable to reflect on these differences in their perceptions, it becomes increasingly likely that communication or interaction between them will degenerate into a so-called 'dialogue of the deaf'.

> Given the plurality of perceptions and preferences that can be expected to pertain among different actors, they must avoid cognitive rigidity in coming to a common understanding or representation of the problem at hand.

> In order to achieve a common understanding of a problem, it is especially helpful to recognize and reflect on each actor's basic approach to planning.

Given the subjectivity or situated nature of how we understand them, we must recognize that all the people who participate in a planning discussion must first come to an agreement on how to define the problem at hand. In so doing, they must take into account who is negatively affected by the given state of affairs and in what ways. In addition to these negative effects, it is also important to explicitly describe the positive features of such a state of affairs lest they be inadvertently 'wiped from the table' in the course of implementing a solution. It follows that planners cannot serve as a neutral broker or mediator in the planning process because the requisite, value-free point of view does not exist.

3.2 Shifting the problem

As a rule, defining a problem restricts the range of possibilities within which solutions can be sought. However, 'shifting' the problem helps ascertain if the initial definition ought to be modified in order to make a new range of possible solutions available for consideration. It is especially important not to commit oneself to an overly narrow and limited subset of possible solutions when defining a problem at the outset of the planning process.

Problems can be also defined as negatively evaluated states of affairs that are caused by particular circumstances and which bring about new circumstances and states of affairs. Shifting the problem consists of using questions such as 'where does the problem originate' (shifting back) and 'where does the problem lead' (shifting forward) to move the problem back and forth along causal chains of reasoning. Although questions such as the foregoing – as well as the more general 'is the problem not in fact …?'

– allow us to shift the 'location' of a problem, it is important not to lose sight of how we originally understood the problem. Rather, the object is to discover more suitable starting points for its solution.[3]

3.3 Checking the assumed relationships fundamental to the problem definition

A set of assumed relationships (alleged matters of fact) always underlies the definition of a problem. For this reason, it is important to check if there is sufficient empirical evidence that such relationships really exist. Not infrequently, it is found that a given set of assumed relationships does not adequately represent a real state of affairs and the definition of a problem must therefore be reworked from the ground up.

This step in the problem-solving process sometimes requires invoking one's entire repertoire of analytic tools – both quantitative and qualitative, e.g. questioning, observation, statistical analysis, etc. (Lamnek 1995). It is thus important not just to go about gathering data blindly, without reference to a clear definition of the problem at hand. Moreover, a thorough clarification of what the available data/indicators *cannot* accomplish is often missing, as well. Finally, either due to lack of money or adequate time, we are often forced to estimate relationships in only a cursory manner.

3.4 Causes of the problem

Measures that provide a permanent solution rather than just attacking a symptom of the problem are best devised once it is known what brought about or maintains the negatively evaluated state of affairs in the first place (Bunge 1987). As a rule, complex problems are brought about by a multiplicity of causes. As such, the planning process requires researching these causes to such an extent that a coherent picture of the relationships between them can be drawn. The more causes are identified, the more starting points present themselves to the planner and the more wide-ranging the space of possible solutions becomes. In so doing, it is important to elucidate not only the breadth of causes but also their depth. That said, the following challenge is inherent to this step in the planning process: every cause can in principle be elucidated in an increasingly detailed and fine-grained manner by tracing it back to earlier events which, in turn, are themselves brought about by yet more distant events, *ad infinitum*.[4]

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3 A simple example can help here. The following definition of a problem: 'city x has too few parking spaces' immediately leads to the conclusion that additional parking spaces are needed. However, saying that 'too many commuters drive from the suburbs into city x to go shopping' calls for new solutions. A central principle of shifting problems backwards in this way is to 'get down to the roots of the trouble'.

4 Let's have a look at the problem of urban sprawl: it appears due to new constructions taking place at the periphery rather than in the city center; this is because properties are more expensive the closer they are located to the center; these differences are dictated by a high demand for living space near the city-center, which, finally, is due to the rise in the number of households.

A consequence of 'following' causal chains further and further back to their origin is that eventually we reach a point where nearly all states of affairs and events can – at least in theory – simply be chalked up to basic natural regularities. The danger in this is that we may lose sight of details in a causal chain's complex reticulating structure. In the final analysis, it is not clear at what point the task of detailing ever more fine-grained causal chains becomes purely 'academic'. Nevertheless, as a rule of thumb it is advisable to continue following causal chains so long as effective measures and solutions can be derived from each additional cause. At this stage in the planning process, we must therefore be content to make do with heuristic simplifications in remedying a problem rather than making the mistake of thinking that we are able to find the 'true' causes of a problem or achieve a 'conclusive' analysis.

3.5 Measures for solving the problem

A further stage in the planning process involves devising measures that: 1) remove the causes of a problem (or at least lessen their impact), and 2) by which an unwanted state of affairs is transformed into something desired. The more precisely the measures target the causes of a problem, the more effectively they will solve that problem.[5] Since as a rule, complex problems and their causes cannot be eliminated by just one or even a few measures alone, a variety of different measures that work in conjunction with one another should be devised. It is especially important to develop sufficiently diverse measures in large numbers because doing so helps counteract an inherent tendency towards mono-causal thinking (Einhorn/Hogarth 1982; Schönwandt 1986). Finally, employing several measures in combination with one another is useful in dealing with complex problems because it helps planners exploit a broader range of possible solutions. In practice, it is important to have access to a broad range of potential measures because this allows one to fall back on alternative plans of action should a given measure prove impossible to implement.

That said, it is of course especially important to ensure that the given measures are actually well suited to bringing about the sought-after goal. Planners must therefore predict and evaluate the effectiveness, efficiency and feasibility of any proposed measures (including a targeted analysis of unwanted side-effects). Given the range of available options, it is only on the basis of such a thorough evaluation that all the suitable measures can be identified and combined into a kind of 'bundle'.

5 For example, if we assume that too many people search adequate living space as there is no sufficient housing stock in a city, the possible measure could be building additional residences. However, if the problem lies in an inability to allocate existing living space to those in search of housing, then the called-for solution is to bring producers and consumers together (see Bunge 1999 or Schönwandt 2002: 86ff, 148 ff).

The following four measures at the disposal of spatial planners ought to be taken into consideration (Heidemann 1992; Jung 2008):

> Allocating sites (e.g. residential or commercial areas, free and green spaces);

> Constructing facilities (e.g. homes, squares, streets, parks);

> Steering the organizations (e.g. associations, public institutions, business ventures, etc.) that make use of those facilities; and

> Influencing the behavior of people that make use of these sites and facilities.[6]

Not infrequently, spatial planners concentrate their attention on the first type of measure: they make use of regional, area-use, and construction plans to allocate space; that is to say, they ascribe certain uses to a given space. Planners do so by way of the 'usual' instruments of spatial planning: central places, axes, high-priority and designated spaces, green corridors, and master plans. The construction of facilities (type-2 measures) is usually given over to architects. Steering the use of facilities (type-3 measures) and influencing behavior (type-4 measures), on the other hand, are often neglected by spatial planners.

Nonetheless, type-3 and type-4 measures can have a significant effect on how a space is used: decisions about the allocation of sites, traffic, infrastructure, the environment, etc., are usually cashed out in the behavior of organizations and people. Moreover, type-3 and type-4 measures broaden the range of actors (stakeholders) to whom plans are addressed.[7] In sum, instruments of spatial planning are most effective if they operate at all four levels described above and do not create any interference between them.

6 The 'logic' behind distinguishing between the four kinds of measures is as follows: a site never exists per se, rather, it always serves as a location for some facility. Facilities (construction projects, parks, nature preserves, etc.) are never built or operated without having some kind of a use. Thus, they serve to accommodate organizations, which, in turn, always consist of people whose behavior have an effect on space.

7 A prominent example of a type-3 measure – steering organizations – is the so-called integrated synchronized timetable. The innovation of this concept was to change how train systems operate by integrating or coupling the schedules of various lines. Very little had to be done to the physical features of the train lines but the measure nonetheless had an enormous impact on how people use public transit.

3.6 Key concepts

Planners always work only with more or less accurate descriptions of the world. These descriptions consist of concepts (terms) that are tied into propositions via relations.[8] Concepts are neither 'true' nor 'false'. Their definition is the result of a negotiation and they are informed by the background knowledge of those who use them. Moreover, only their core can be defined; their edges cannot be outlined with precision (Bunge 1996: 49 ff; Schönwandt 2002: 81; Adis/Schönwandt 2005).

Even concepts that are central to planning, such as mixed-use facilities, traffic or sustainability, are often used in totally different ways by different people. This can result in contradictory procedures and proposed solutions, depending on the definition of each concept in the relevant context (Schönwandt 2002: 139). As a result, the key concepts in planning must be defined (read: semiotically interpreted) with precision and care. This is true for the following two reasons: 1) this enables different actors to understand the content of a plan as well as its implementation more easily, and 2) how we define our concepts determines our actions and therefore the measures we will propose.

It is especially important to recognize that the definitions of concepts determine our actions in that they facilitate (or inhibit) our ability to see all the potential solutions to a problem.[9] A change in the definition of a concept not only makes new types of solutions available for inspection but also makes it possible simply to define a problem away. For example, the European Union decided some years ago to set extremely stringent guidelines to regulate acceptable levels of pollution in potable water. However, extensive use of fertilizers and pesticides places a heavy burden on potable water in many parts of Europe. To solve this problem, the law has simply been updated to raise the levels of acceptable pollution. Hence, the concept of 'potable water' has simply been redefined: actual pollution levels are not reduced, but they are made legal (for this and other examples, see Schönwandt 2002: 82 f). This illustrates that concepts not only determine our actions and have the potential to help us reach a mutually satisfactory agreement. They can also be used as an instrument of power and manipulation through which planning can be steered in a particular direction.

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8 For example, the sentence 'densely constructed cities with mixed-use facilities make for shorter distances and thus elicit less traffic' relates to the concepts of: density, city, mixed-use facilities and traffic and binds them into a proposition.

9 For example, trying to solve a problem in the distribution of high schools by interpreting 'high school' as a physical place in which teaching and learning takes place hinders recognizing that broadening this definition raises the possibility of designing educational facilities for time- and space-independent teaching and learning (e. g. by using new information and communications-technologies).

3.7 Basic approaches to planning

'Basic approaches to planning' are foundational, paradigmatic thought patterns that act like spectacles to determine how planners see the world (Kuhn 1962/1981; Bunge 1996). Approaches to planning here also include what the literature in planning theory describes as the 'logic of action'. Among other things, approaches to planning include particular ways of seeing a problem, goals, methods, as well as our background knowledge. All four depend on one another and are usually found in conjunction. The choice of approaches to planning is not, as has been previously mentioned, in the 'nature of things'. Rather, planners are free to choose and switch between various approaches as they see fit (Schönwandt/Voigt 2005). When working out an actual plan it is thus necessary to sound out and subsequently make use of the whole range of actions coupled to various different approaches to planning.

Every planner makes use of at least one basic approach that influences his/her thinking as well as communicative and practical actions, either consciously or not. The choice of basic approaches is determined especially by the professional community which a planner belongs to – by the body of thought that has been conferred upon a planner by membership in a particular knowledge and belief society. Since every approach to planning only allows for a limited number of ways in which problems can be defined, goals determined and problems solved, each unintentionally leads to a kind of 'tunnel vision' (Schönwandt/Voigt 2005): as a rule, urban planners come up with planning solutions, sociologists with sociological ones, business administrators with economic ones, etc. As such, the members of a discipline tend to overlook the fact that the viewpoints and methods of other disciplines offer new and helpful perspectives or approaches.
The range of approaches to planning also varies greatly between the various professional disciplines: for example, in addition to urban planning, which is primarily engaged in the allocation of sites, there is also urban design, urban planning as social planning, etc. Every approach to planning thus entails a different way of doing things that is more or less suited to a particular problem (Schönwandt/Voigt 2005). Moreover, the different approaches to planning also mirror different philosophical (in particular ethical) positions, e.g.: the various ways of understanding the relationship between the state and the economy which in turn correspond to different conceptions of justice and thus eventually determines which social groups – the strong, who 'keep society moving' or the 'weak', the 'majority', etc. – a planner supports (Davy 1997: 267). A change in basic approaches thus almost always entails a change in our understanding of a plan and, as such, the measures that we will propose.

For all the foregoing reasons, it is of vital importance to draw on a variety of approaches to planning. Doing so allows us to take advantage of the different range of solutions that each one entails. Moreover, this makes it easier to understand, moderate and integrate the various viewpoints of different stakeholders in the planning process.

4 The Orient/East-Med Corridor: a test-bed for a problem-oriented approach

Improving the transport infrastructure routes, which include railway lines, usually plays an important role for the economic development of a region in Europe and elsewhere in the world. Nevertheless, expanding traffic infrastructures does not automatically lead to positive economic development. This becomes clear when observed from a broader (i.e. regional and/or national perspective). Namely, certain regions which host new infrastructural (mainly transnational) axes become more competitive, but others may become peripheral. However, one thing is sure: traffic infrastructure that is limited in its function or missing altogether can complicate or even block development. This means that functioning infrastructure is not a sufficient, but certainly a necessary condition for the positive economic development of a region.

On the other hand, infrastructural improvements not only speak for the economic harmonization of a region – strengthening infrastructural connections affects political and geo-strategic aspects, as well. More precisely, infrastructural development contributes to territorial cohesion within a region or nation state, or between the states or even continents. In the past, after each major war Europe started with its redevelopment by investing in its infrastructure. Numerous policies of the recent past certainly followed this trend of understanding infrastructure as a tool for spatial and any other development. The future of European infrastructural development cannot neglect global, intercontinental influences.

With this complexity in mind, the working party gathered around the project "Spatial and Transport Development in European Corridors: Example Corridor 22, Hamburg–Athens" decided to equally consider two branches of the Orient/East-Med (OEM) Corridor: one running through the European Union (EU) states of Romania and Bulgaria, and the other through the Western Balkan countries. The reasons for such an approach are twofold:

> The necessary infrastructural improvements in the EU states of the OEM Corridor involve construction work in a topographically inconvenient area. As a result, a number of tunnels and bridges would be necessary to make the OEM Corridor fully operable in these countries. In contrast to this, the 400-km route through Serbia and the Republic of Northern Macedonia connects Budapest to Thessaloniki through river valleys, making this branch highly competitive in terms of infrastructural upgrade and the associated costs in comparison with the EU route.

> By its very definition transnational corridor development implies the involvement of various administrative levels and, more importantly, their cooperation. Also, any major development in Europe cannot be observed only 'from inside'; rather, it is affected by global conditions. Therefore, the current developments in the Western Balkan region as well their geo-strategic significance (not only for the region, but also for Europe) must be taken into consideration.

Following this twofold logic of analysis, the next section describes the current problems along the OEM Corridor, both through the lens of infrastructural development, i.e. based on EU and non-EU interventions in physical improvements, as well as from the view of political and geo-strategic importance, i.e. taking into account the contextual prerequisites for certain planning interventions.

4.1 The Orient/East-Med Corridor: a 'planning world' perspective

Some of the problems observed along the OEM Corridor are related to infrastructural improvements and the operation of railway services. Some general remarks on the reasons behind infrastructural upgrades are given first, followed by the concrete measures undertaken by various parties involved in the development of the OEM Corridor.

A generic challenge of investing in railway services is the following: under what principles should a railway company operate? Should it strictly follow the rules of market economies? Or should other criteria, i.e. ecological criteria, such as 'shifting freight transport from road to rail' or social criteria, such as 'offering mobility possibilities to people living in the countryside, despite the required rail service not being able to operate economically', also be considered? At its core, the question is 'how much state' and 'how much market' is wanted in railway operation. The problem is that when railway operations are left to corporations from the private economy, then they follow economic guidelines prioritizing economic efficiency. Other topics, such as public economic issues (a general mandate to develop the infrastructure) or social and ecological issues are of secondary importance to them and are therefore not usually pursued with the necessary commitment. This means that leaving the issue of transport infrastructure to the private sector alone promises little success. It is noteworthy – because, in the OEM Corridor context, it is counterproductive – that the privatization of the port in Piraeus has been called for by the EU, for example, through the privatization conditions imposed on Greece in return for the loans from the euro safety net.

The previous financial incentives led to the creation of a number of concrete instruments for infrastructural development along the Core Network Corridors (CNC), therefore also for the OEM Corridor. From the strategic point of view, CNC are seen as an instrument for the coordinated implementation of the core network as they cover the most important long-distance transport flows (Regulation (EU) 1315/2013). When it comes to implementation, the main instrument at the EU level to support transport development and the implementation of the core network for the funding period 2014–2020 is the 'Connecting Europe Facility' (CEF) (Regulation (EU) 1316/2013). This EU instrument defines the scope of the corridor and pre-identified projects. Several TEN-T/CEF calls have been published for EU co-funding of 1) pre-identified projects, 2) other projects on the CNCs, and 3) the complementary networks, inviting Member States, railway infrastructure companies, railway operators etc. to apply for co-funding. Finally, the 'cohesion envelope' ensures that a significant share of the CEF budget is spent in central and eastern EU countries.

In the meantime, it has become clear that China has enormous plans regarding infrastructure along the New Silk Road.[10] According to the Chinese President Xi Jinping, the total costs of this project, also known as 'Belt and Road Initiative', will amount up to 1.1 trillion dollars (FAZ 2017b). Xi also responded to the allegations that China is following a nationalist strategy, which aims at creating new distribution channels for its state economy suffering under excess capacities, especially towards or in Europe and thereby expanding Beijing's political influence throughout the world. However, the aim is clear – cooperation and a win for all sides (FAZ 2017b).

The current EU position towards this project can be read in the closing statement of this conference. The EU states initially did not want to support the joint closing statement of the conference because the prescribed standards for the planned infrastructure projects did not go far enough (FAZ 2017b). The focus of the EU is also insightful: it is on boundary conditions for the construction of structures (roads, bridges and power plants), however not on where which buildings shall be built and where not, as if the EU were not affected by these locational issues. Not a single word by the EU mentions possible conflicts of interest – this raises some questions: Which infrastructure projects do the Chinese plan? Which infrastructure projects do the Europeans plan? Which projects are in both parties' interest? And most important: where are potential conflicts of interest?

Meanwhile, the Chinese initiative keeps picking up speed. Headlines such as "Eastern Europe worships Beijing – and hopes for billions" (Verseck 2017) or "The Chinese are spreading throughout Eastern Europe" (FAZ 2017c) emphasize this. The occasion for these headlines was a meeting towards the end of November 2017 by the initiative 16 plus 1, established in 2012, which regularly brings China together with 16 EU and non-EU members.[11] During the event in Budapest, the Chinese pledged 3 billion dollars to the region for infrastructure projects. Among others, one major investment is for the new railway line between Budapest and Belgrade to the amount of 2.1 billion dollars. Construction is expected to begin in 2020/21 (FAZ 2017c).

All this suggests one point: the EU currently does not have a sufficiently detailed infrastructure development concept in this area which could be compared with the Chinese ideas. They are literally being caught wrong-footed. More precisely, the topic of the OEM Corridor comes up from time to time, but it undoubtedly is not one of the pressing EU projects. In addition, the area outside the EU, covering the six Western Balkan (WB 6) countries, is certainly not the focus of the EU policies. Due to increasing political pressure caused by the Chinese initiative it has become apparent that there is no detailed overall concept specifying what an expansion towards WB 6 might look like, neither by the EU, nor by the countries lying on the OEM Corridor.

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10 The main points for the following paragraphs of this section are interpreted from the statements of the Belt and Road Summit held on May 14-15, 2017 in Beijing.

11 This group involves countries such as Poland, Hungary, the Czech Republic and Slovakia, the three Baltic States as well as Bulgaria and Romania. From the former Yugoslavia, the EU Members Croatia and Slovenia participate as well as Serbia, the Republic of Northern Macedonia, Montenegro, Bosnia and Herzegovina and Albania.

4.2 The Orient/East-Med Corridor: a 'life world' perspective

A broad spectrum of problem areas influenced by the contextual challenges (political and geo-strategic) emerges along the OEM Corridor. Some of these are presented briefly.

According to the European Commission, some eastern European countries, including Hungary for example, do not respect or support fundamental central constitutional values and certain EU policies to the necessary extent. The commission is therefore considering linking subsidies to respect for these fundamental values and decisions. As a result, some eastern European EU countries will have to fear losing billions of euros. This would further weaken the already scarce financial resources of these countries and reduce their scope for investment, for example in the railway network (Becker 2017). The threat posed by the EU and other places of possibly cancelling subsidies for countries opposing the EU migration policy only increases the resistance. However, due to a strong financial influence of China in Eastern, Central and Southern Europe for the 'New Silk Road', these countries do not rely on the EU as the only financial source anymore (Schwarz 2017).

The next problem area is related to the preceding one in a similar fashion. It deals with the six countries of the Western Balkan, lying between the state territories of the EU Members Croatia and Greece: Kosovo, Serbia, Bosnia and Herzegovina, Republic of Northern Macedonia, Montenegro and Albania. The chances for these countries of EU membership are currently estimated to be quite low. However, autocratically governed states with historical ties to the Balkans such as Russia and Turkey, but also new global players from the Arabian Gulf, see such a brittle relationship between the EU and the Western Balkans as a clear opportunity for strengthening their own economic and political position in the region; e.g. Turkish investors have already invested more than a billion Euro into traffic- and energy infrastructure in Kosovo (Mayr/Puhl 2017). Therefore, the question remains how these states can be included in a long-term railway concept.

Other problem areas refer to the basic state of some Balkan countries, including especially: the behavior of the ruling elites, the condition of state administration (e.g. deficiencies in the cadastral or tax administration), and the topic of corruption among ruling elites (Schiller 2017). According to the Corruption Perceptions Index 2018 by Transparency International, which covers a total of 180 countries worldwide, the most corrupt EU countries, in ascending order, are: Italy (rank 53, index 52), Slovakia (rank 57, index 50), Romania (rank 61, index 47), Greece (rank 67, index 45), and Bulgaria (rank 77, index 42) (Transparency International 2018). In this context, it is worth mentioning that the anti-corruption report of the EU was abolished in 2017, which for many counts as a clear signal of abandoning the fight against crime at the EU level (FAZ 2017a).

All these are underlying conditions that do not contribute towards a gain of confidence and therefore do not facilitate the planning and construction of such a railway project.

5 Basic recommendations for the Orient/East-Med Corridor strategy

In conclusion, what is currently missing is a suitable overall strategy which allows the allocating of funds. This usually cannot be done at once, but is rather in keeping with the timescale of implementing railway infrastructure projects – it usually takes 20, 30 or sometimes even 40 years to accomplish such comprehensive and complex projects. Therefore, the goal of such a strategy should be to develop an integrated overall concept, which addresses the role of railways in offering mobility possibilities to cities and regions, keeps an eye on the required subsidy requirements and allows step-by-step implementation. The following lines describe the main elements to be taken into account if we are to prepare a feasible strategy for the OEM Corridor. The structure is based on the main components of the 'problems first' planning approach.

> **Defining the problem:** The starting problem is obsolete infrastructure in the southern part of the OEM Corridor (i.e. south of Vienna). But, functional infrastructure is not the main goal *per se*. Infrastructural improvements necessarily affect positive economic development. In the macro-region scope of the OEM Corridor, this means mitigating the distinctive divergences between the core and periphery regions, thus striving for territorial cohesion.

> **Shifting the problem:** Complexity along the OEM Corridor not stems only from infrastructural bottlenecks. Rather, it is deeply rooted in a broader political and geo-strategic context – different histories, identities and cultures, different current development trends and future perspectives. For centuries, Vienna has been the crossroad between the Austro-Hungarian and Orient empires, later between the capitalist West and communist East, while today their successors compete again for strategic importance in the OEM macro-region.

> **Assumed relationships:** With the previous point on geo-strategic importance in mind, the relationships need to be clarified and elaborated. This means taking a deeper, two-fold approach. First, globalization makes the world better connected: as a result, the European infrastructural network is affected by stakeholders outside Europe. In the case of the OEM Corridor, major players come from China, Russia, Turkey and the United Arab Emirates. Secondly, the EU approach is highly restrictive (to EU Member States only), which impedes making strategic solutions. Considering the Western Balkan countries as part of the extension of the OEM Corridor routes opens the way towards a strategic, long-term and cohesive solution.

> **Causes:** Naturally, there are some projects aiming to expand the network towards WB 6 initiated by countries lying along the OEM Corridor. However, these are mostly projects for high-speed passenger rail services. There is often no consideration of how the two rail-bound mode types passenger and cargo transport should act together or for which lengths of freight trains the routes are constructed. In addition, there are no concepts on how the main routes will be connected to the bordering regions to the east and west, for example by railway lines on which an integrated timetable can operate.

> **Measures:** An integrated synchronized timetable poses the following challenge: important railway nodes, aside from the main route, have to be connected as follows. Assume two stops, A and B, lie on the main route and an additional railway node C lies between A and B, albeit offset from the main line. C has railway connections to A as well as B. In this situation, it makes sense to strive for a timetable connection as shown by the following train trip: an exemplary train, starting at the respective cycle time at B, travelling from B to A via C, should arrive at A by its scheduled cycle time. Establishing this is not always easy, because – just to name an example – measures (e.g. capacity expansions) to reduce travel time may have to be implemented on the route B-C-A.

> **Concepts:** Chinese investments are dominant along the OEM Corridor nowadays (cf. the Greek port of Piraeus and the railway Belgrade-Budapest line), and there is a certain 'ideology' behind these investments which makes them so successful. Namely, a concept by the Chinese (maybe not thoroughly known by the Europeans) is that economic interests may be the main driver. This begs the question: which concept do the Europeans have in this area and especially, how can the Chinese projects be made compatible with the European concept?

> **Planning approach:** Finally, making comprehensive strategy demands clear coordination. Such a coordinative role can certainly be devoted to planners, as experts capable of working in a multidisciplinary and intersectoral environment, and capable of understanding the problem on various scales – from local to transnational. Keeping such complex demands in mind, a variety of approaches appears as a logical choice enabling a range of different solutions.

These 'key seven' are recommended as the pattern for solving complex problems along the OEM Corridor, an area with a variety of fuzzy barriers that impede comprehensive strategic development. The seven components can also be seen as steps in preparing the strategy. Nevertheless, it is important to note that all seven steps in the process are often run through several times in an iterative or back and forth fashion. In this way, the content of each step in the process is modified and thereby made to fit with that of the others in a lock and key fashion. This finally secures long-term and feasible solutions.

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